alyzed, and the extens. carpi. rad. must be used to replace it, in such a light task it is as a rule more correct to suture tendon to tendon than to permit four silk tendons to go out from the power-giving muscle to be attached to the basal phalanges of the fingers. If, without endangering the result of the operation, one can spare the patient four wounds, and in that way render the operative procedure easier and less dangerous, of course one must do it. The conditions in severe paralyses are different. Here, according to my view, we must above all things seek to obtain functional independence for the few muscles which are left, and if you agree with me in this you will further agree with me if I employ for these cases as a rule that method which assures the greatest certainty of the result, and the greatest freedom in constructing our operation plans; that is, the method of the periosteal plastic operation and of silk tendons.*

REPORT OF THREE CASES OF INFRA-DIAPHRAGMATIC AND ONE OF SUPRA-DIAPHRAGMATIC AORTIC ANEURISM.

By C. M. COOPER, M. B., San Francisco.

CASE 1. The first patient, whom I saw in extremis mortis, was an Italian 30 years of age, a gardener by occupation who had drunk wine freely and had had acute rheumatic fever eight years previously. He bore no evidence of past venefeal trouble; he now suffered from a tubercular right lung apex, but for the past year he had been subject to severe remittent pain which had begun suddenly. This was felt in the flanks and radiated to the mid point of the spine. It lasted for a few days and then disappeared to again recur. For six months he had had continuous pain in the pit of his stomach, and during the last month constant pain had been present in his back in the lower dorsal and upper lumbar vertebral region.

The doctor had found: 1st, rigidity of the dorso-lumbar spine without deformity; 2nd, moderate tenderness on percussion over this area; 3rd, pain radiating into both flanks on movement; 4th, somewhat rigid abdominal muscles with an absence of anything abnormal on abdominal examination.

In view of the association of these findings with a tubercular right lung apex, a diagnosis of tuberculosis of the spine had been made and a plaster jacket put on. This had occasioned increased pain and had had to be removed and I saw him shortly after this had been done.

He lay dying, with pinched face and a very quick, low pressure pulse. He was perfectly conscious, pale and complained of vague abdominal pain. The abdomen was extremely sensitive, but not distended; the anterior muscles were rigid. A very large fluctuating non-pulsating mass could be made out in the right lumbar and right iliac regions apparently along the line of the ilio-psoas muscle. Further examination seemed unjustifiable.

The autopsy held next day revealed a tuberculosis of the right lung apex and an aneurism growing from the right posterior part of the abdominal aorta opposite the upper fibres of origin of the psoas muscle into which structure the rupture had taken place. The aneurism had eroded the bodies of the 1st and 2nd lumbar vertebræ, having grown in a backward direction.

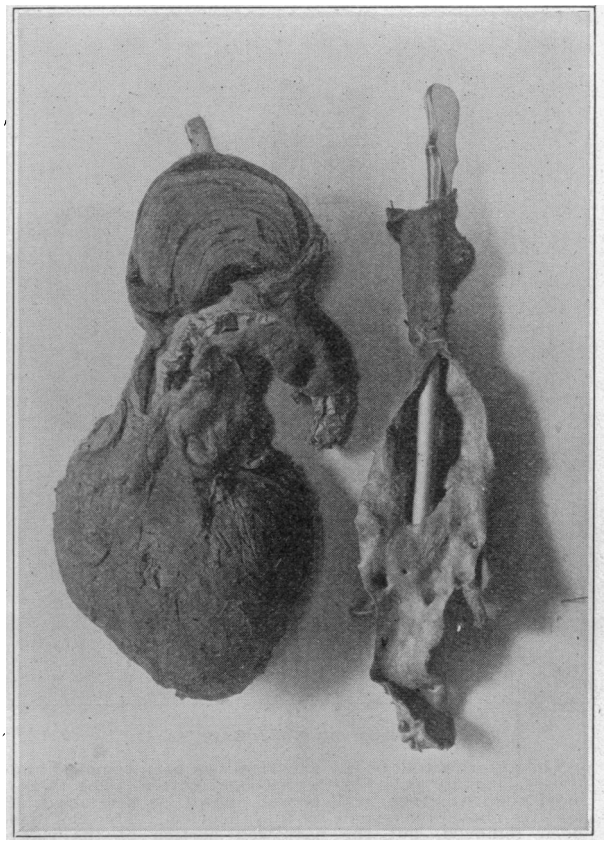
Case 2. The second patient, a strong muscular middle-aged laboring man, was referred to me for a fluoroscopic examination by one who, clinically, could find no cause for the presence of pain in the lower thoracic region and a harassing cough. The fluoroscope revealed a rounded pulsatile mass jutting out from the lower thoracic aorta and resting on the left diaphragm, without doubt a supra-diaphragmatic aortic aneurism. The man disappeared so that unfortunately I was not able in the light of this added knowledge to correlate the clinical and fluoroscopic findings. I briefly mention the case as it emphasizes that aneurism in the region of the lowest dorsal vertebræ may be supra as well as infra-diaphragmatic.

Case 3. Patient No. 3 was under the care of Dr. J. Wilson Shiels and myself. He was a colored individual, past middle life, who had labored hard and had had syphilis. It was plain that he had a large clotted saccular aneurism of the transverse portion of the thoracic aortic arch—an adherent pericardium and an enlarged thyroid gland with some indications of Grave's disease, but in addition there were some symptoms which could not be accounted for by the presence of these lesions. Severe pain in the pit of the stomach which radiated indefinitely into the loins was constantly present. At times intense exacerbation occurred and then the patient would lie motionless, curled up in bed, all movement aggravating the condition. There was a very marked general wasting such as not infrequently occurs in association with such intense pain. The skin of the abdomen and all the tissues of the legs were apparently very hyperesthetic. There was no muscular or sensory paralysis.

Local examination revealed: Some rigidity of the lower dorsal and upper lumbar vertebræ unaccompanied by deformity. A moderate amount of tenderness on deep percussion over this area. A thin abdomen, palpation of which was negative. The question arose, What was the cause of this intense pain and spinal rigidity?

The absence of symptoms relative to any abdominal viscus, and a point on which we were inclined to lay much stress, viz.: the absence of vomiting even during the exacerbations, seemed to us to rule out a visceral cause. The absence of deformity, the nonsuccess of rest in giving relief, together with the intensity of the pain, excluded in our opinion, tuberculosis of the spine. The absence of all paralytic symptoms, the absence of marked local tenderness, negatived tumor of the vertebræ. The absence of all paralytic symptoms, the presence of normal abdominal reflexes, the presence of moderate percussion tenderness, were against dural tumor.

The clinical picture did not imitate chronic osteo-arthritis of the spine and we were left with an aneurism of the abdominal aorta high up under the diaphragm as the probable lesion, even though the femoral pulses were full and not delayed, the history of syphilis and the presence of a clotted thoracic aneurism favoring this diagnosis. Thirty-two hours before death, a big, fluctuating, pulsatile mass appeared in the left loin; the left kidney and spleen were pushed downward and forward. The aneurism had evidently ruptured. The postmortem specimens were extremely interesting (See Figure No. 1). There was a large, clotted, saccular aneurism of the transverse portion of the aortic arch growing from its upper wall and a somewhat similar but much smaller localized saccular aneurism growing from the posterior left aspect of the abdominal aorta high up under the diaphragm, this having eroded the body of the first lumbar vertebra. I may add that in this patient potassium iodid was not tolerated—the smallest doses aggravating the symptoms and causing marked increase of the pulse rate; probably because of the condition of the thyroid gland.



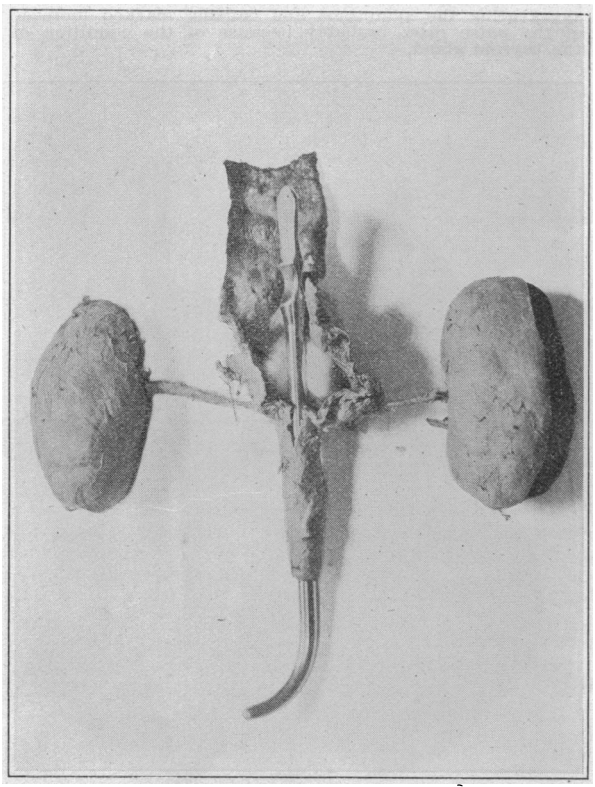
Photograph No. 1, Case No. 3.

The thoracic aortic aneurism is shown growing from the upper aspect of the arch, and though it has attained a large size it does not interfere with the lumen of the aorta in which a mass of lead foil lies. The lamination of the clot is well shown. To the right is the abdominal aorta which has been cut open. A sound has been introduced into the descending thoracic aorta and made to protrude through a triangular opening which formed the mouth of the saccular abdominal aneurism. The big abdominal vessels are seen to arise below the aneurismal site.

*[References to illustrations occurring in the text were not omitted in the translation, in order to further preserve the accuracy of the original document. It was found impracticable to reproduce the original figures].

Case No. 4. As this man lay in the postmortem room, I was asked in Prof. Kerr's and Dr. Ebright's absence to see a patient who had just been admitted into the University wards of the City and County Hospital without an obtainable history. The patient lay in bed in a comatose condition; the pupils were contracted but there was no eye or any other motor paralysis. The temperature was subnormal, the tongue dry and furred, the reflexes were exaggerated, the Babinski phenomena being present. Urine and feces had been passed in bed and no more urine could be obtained. On pulling back the bedclothes, we saw a large semicircular pulsatile mass about the size of a half orange lying between the ensiform cartilage and the umbilicus. All the classical physical signs of an aneurism were present though the femoral pulses were full and not delayed. The heart was not much enlarged, the pulse was fairly good; no edema was present. We believed the patient to be suffering from a terminal uremia. Knowing that a terminal uremia is nearly always due to a circulatory breakdown, we, in view of the condition of this man's cardio-vascular system, felt justified in looking elsewhere for the causative uremic factor. The aneurism lay in the region of the anatomical site of the origin of the renal arteries. We therefore sent the patient to the autopsy room with a diagnosis of uremia, most probably due to the occulsion of the renal arteries from involvement in the abdominal aortic aneurism.

The postmortem examination revealed a large abdominal aneurism which involved the whole circumference of the aorta. This aneurism had eroded the upper lumbar vertebræ. A thick clot lay over and blocked the mouth of the right renal artery. The mouth of the left was so contracted and distorted that only a small probe could be introduced into it, the narrowing being over half an inch in extent. This specimen was shown with clot attached at the University Alumni Society but it has since been dislodged (See Figure 2).



Photograph No. 2, Case No. 4.

The anterior wall of the aneurism has been removed and the sac partially filled with absorbent cotton. The thickened aneurismal sac wall is well shown, as also areas of aortitis above the origin of the aneurism. The clot has been removed, but the narrowed portion of the right renal artery is well shown, a pin transfixing this structure. The formalin solution in which the specimen has been kept has occasioned a shrinkage of the aorta below the aneurism.

In briefly reporting these cases I desire to draw attention, 1st, to the great frequency of aneurisms of all kinds on the Pacific Slope.

2nd, To the fact that clinically we meet with two kinds of abdominal aortic aneurism; one variety growing forward and exhibiting unmistakable clinical signs and symptoms. The other a small saccular aneurism which grows backwards and erodes the vertebræ.

3rd, That this latter variety exhibits no pathognomonic physical signs, though some local spinal rigidity and tenderness on deep percussion are usually present.

4th, That pain is a prominent symptom, this pain being extremely severe, and usually of two kinds, one constant and fixed, the other remittent and often radiating. Moreover, this pain is different from visceral pain inasmuch as it, per se, is unassociated with vomiting.

5th, That in the second variety of abdominal aortic aneurism the diagnosis has to be made by a process of exclusion, due attention being paid to pressure symptoms and symptoms indicative of the involvement of the blood supply of the different viscera.

ANALYSIS OF FIFTEEN CASES OF OPERATION FOR CANCER OF THE BREAST.*

By THOS. W. HUNTINGTON, M. D., San Francisco.

IT IS lamentable that full accounts of work done and results attained in dealing with breast cancer have so rarely found a place in published records. When we consider that in every hospital a large number of operations are done every year for the relief of this condition, it seems strange that only now and then a surgeon has given to the world his complete final results with a conscientious analysis. So far as I can learn, a detailed account of breast cancer work has never been published by any Pacific Coast surgeon. If I am in error in this regard, I shall be grateful for any references which may be forthcoming. It is not improbable that explanation for this neglect is due in large measure to three factors: First, failure to record cases systematically as they appear. Second, the difficulties which are encountered in tracing patients after operation. Third, the enormous preponderance of fatalities which promptly follow the most painstaking and thorough surgical measures. This latter consideration probably more than all others has discouraged operators from adding their experience to the aggregate of human knowledge. To me it is apparent that the occasional operators, skillful though they be, will not find their results conforming to those who in larger fields, are able to eliminate cases, which are obviously hopeless from the standpoint of a three year cure. Furthermore in the larger hospitals, its is fair to assume that a far greater proportion of early hopeful cases are promptly referred to the surgical service than where patients from remote districts appeal to the surgeon at the suggestion of their family physician or upon their own initiative, and as a last resort. If we are to accomplish really brilliant results in this department, it will only be when the regular attendant, realizing the dangers that beset women who are conscious of the presence of a breast tumor of any sort, more earnestly insist that a careful study of the case be entered upon by a competent authority.

Rodman, in a recent paper, insists that in a reasonably large number of suspected cases, an intelligent diagnosis can only be made by a preliminary diagnostic incision, to be followed by microscopic investigation of the mass. When such doctrine is cordially endorsed by the general practitioner by whom these patients are seen tolerably early, then and then only will the average surgeon find his final results conforming to those of the masters who have blazed the trail and set the pace.

The matter of history taking and record-keeping is of sufficient importance to warrant the publication of a scheme which if followed throughout will enable the operator to make his work available for future reference. Moreover, it has been my experience as it has of most careful observers that breast-cancer patients are more than willing to keep in close touch with the operator for an indefinite period after surgical

*Read before the San Francisco County Medical Society.